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Scholars Debate Spatial Thinking and Science Learning at Conference

Scholars from across the nation are exploring the value of spatial thinking in relation to science learning at a daylong conference sponsored by the **Multidisciplinary Program in Education Sciences (MPES)**.

While several studies have suggested that spatial thinking may play a specific and unique role in the practice and teaching of science, technology and education, supporting evidence is lacking. "Spatial Thinking and Science Learning" on May 5 in Evanston is exploring the relevance of experimental interventions to enhance spatial thinking and what forms such interventions should take.

Related questions focus on the role spatial thinking plays in learning the sciences, as well as whether spatial training must be domain-specific. Participants will also discuss goals for future research and the most important unanswered questions.

Presentations by experts from universities across the nation include the following:

- "Observing, Recording and Reasoning about Environmental Data: The Role of Spatial Thinking" by Lynn Liben, Distinguished Professor of Psychology, Pennsylvania State University
- "Basic Components of Spatial Intelligence and Their Relevance for Science Learning" by Mary Hegarty, Professor of Psychology, University of California-Santa Barbara
- "Task-Specificity of Spatial Thinking in Advanced Scientific Problem Solving" by Mike Sieff, Assistant Professor of Education, University of Maryland College of Education
- "Learning with Scientific Visualizations: Some Implications for Students' Learning and Some Directions for Learning Sciences Research" by Janice Gobert, Associate Professor of Social Science and Policy Studies, Worcester Polytechnic Institute
- "Improving Spatial Visualization: The Search for Mechanism" by Nora Newcombe, Professor of Psychology and PI of the Spatial Intelligence and Learning Center, Temple University
- "Fostering Geoscience Students' Reasonings about Dynamic Topography" by David Rapp, Associate Professor of Education and Social Policy and of Cognitive Psychology, Northwestern University
- "Uphill Both Directions: Biases, Errors and Individual Differences in Spatial Processing" by Holly Taylor, Professor of Psychology, Tufts University
- "The Relationship between Working Memory Capacity, Spatial Visualization and Geoscience Understanding" by Julie Libarkin, Assistant Professor in the Department of Geological Sciences and the Division of Science and Mathematics Education, Michigan State University

MPES is an innovative interdisciplinary doctoral training program to develop a cadre of scholars trained to conduct relevant and reliable research on pressing policy and practice issues in education. The program, directed by SESP associate professor **David Uttal**, integrates training in statistics, evaluation, cognition and learning, and education policy. The program was established in 2004 by professors at SESP and Weinberg College of Arts and Sciences.

by Marilyn Sherman

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